Town of Surfside

TO: Town Commission
FROM: Sand Project Community Monitoring Committee
SUBJECT: Final Report
DATE: September 11, 2014

OVERVIEW

On April 23, 2013, the Surf Club received final approval of their amended site plan which would permit a 285 unit condominium/hotel including a gourmet specialty food product store, a four star hotel with a spa, roof top decks, pools, 668 parking spaces, tandem parking, and 24 hour valet parking consisting of three 12-story buildings on the east side of Collins Avenue and two 4-story buildings on the west side of Collins Avenue, and conditional uses, pursuant to Section 90-23-2 of the Zoning Code, to permit the development of structured parking, hotel swimming pools, Jacuzzi, outdoor dining, lounges/bars, and a roof top bar at 9011 Collins Avenue.

This type of oceanfront development is consistent with the Town's efforts to promote lower density, quality infill development. The density of this development is approximately 37.4% of the allowable density permitted by Code.

The development of the approved project included excavation on the site to accommodate the proposed development. Approximately 85% of the property is located east of the Coastal Construction Control Line (CCCL). Chapter 62B-33: Bureau of Beaches and Coastal Systems – Rules and Procedures for Coastal Construction and Excavation (Permits for Construction Seaward of the Coastal Construction Control Line and Fifty-Foot Setback) addresses the requirements of retaining beach compatible sand excavated east of the CCCL.

The FDEP issued a permit (Permit #DA-631) to the Surf Club (SC Property Acquisition, LLC) for certain activities associated with their project that are east of the CCCL including excavation and transferring beach compatible sand onto the beach. On December 9, 2013, FDEP issued a Notice to Proceed to the Surf Club under their permit for activities seaward of CCCL (beach sand redistribution). The Surf Club excavated approximately 20,000 cubic yards of native sand from its development prior to May 1 and placed it on the beach landward of the seasonal mean high water line.

As the sand was being placed, concerns were registered regarding the color/texture/compatibility. When originally placed, the color of the native sand was a substantially darker color than the existing sand. Since being placed, the sand has begun the natural process of bleaching. Independent testing of the sand prior and after placement on the beach indicates that the sand meets FDEP beach sand compatibility standards. The chemical analysis of the sand indicated an arsenic level consistent with naturally

occurring levels for the beach environment in Miami-Dade but higher than the State recommended residential default rate of 2.1 mg/kg. This led to a concern regarding the safety of the placed sand.

With these concerns still unresolved, a Sand Project Town Hall meeting was held on Monday, June 2. Public input was received regarding these issues including that arsenic levels were still of concern to some and that the newly placed sand should be removed. It was suggested that a community oversight committee be formed to address these unresolved issues. This led to the formation of a Manager's Committee titled – "Sand Project Community Monitoring Committee".

The Sand Project Community Monitoring Committee (Committee) was established in June 2014 in response to issues and concerns relating to a recently completed sand transfer project by the Surf Club. The Committee held its first meeting on June 25.

Through the establishment of this Committee, a process and opportunity was created for properly addressing these issues/concerns in a logical, comprehensive and community based approach.

The Committee would like to express its appreciation to the subject matter experts (who are acknowledged within the body of the report); Town Staff who worked diligently to assist the Committee; and the residents who regularly participated throughout the process.

It is the hope of the Committee that its work and recommendations provide a workable and final solution to the current issues/concerns regarding the recent sand transfer project and provide a framework going forward that will enable the Town of Surfside to be proactive in monitoring and safeguarding the management of its beaches.

Summary of Recommendations

1. Sand Solution
   - Scraping of the Surf Club sand off the beach and placing it in the dunes or street access areas
   - Prior to the project being undertaken that the following two (2) conditions be met:
     - Resolving through FDEP the Compliance Assistance Offer regarding debris on the beach; and
     - Testing of the sand prior to being placed on the dunes pursuant to a modified testing protocol developed and approved by Dr. Teaf.

2. Urging Resolution

   The Town Commission adopts Urging Resolution which asks the State to adopt chemical testing standards and requirements for sand transferred/placed on the beach in Florida.

3. Establishment of a permanent beach management committee.

Introduction

The Sand Project Community Monitoring Committee (Committee) was established by the Town Commission at its June 10, 2014 meeting. The Charter for the Committee is attached (Attachment 1).

The Charter assigned the following tasks to the Committee:

A. Sand Testing Results (chemical composition): 1. Receive educational presentations from independent subject matter experts (both public and private sectors) on the sand testing protocol and results relating to arsenic, lead and asbestos; and 2. Determine process to bring this issue to closure based upon best scientific data and evidence.
B. Sand (physical composition): 1. Receive educational presentations from independent subject matter experts (both public and private sectors) on the physical composition of sand and expected changes over time; 2. Review the options identified by FDEP available to address citizens' concerns regarding the color/texture issue and provide recommendation; and 3. Determine process to bring this issue to closure based upon best scientific data and evidence.
C. Beach Management: 1. Receive educational presentations from independent subject matter experts (both public and private sectors) on beach issues including current beach conditions; sand issues; erosion and beach renourishment opportunities; 2. Determine process to obtain CCCL Maintenance Permit to allow regular maintenance of beach (similar to Sunny Isles Beach).
D. Remaining Issues: 1. Dune Restoration at Surf Club; 2. Escarpments/Cliffs/Walls; 3. Sifting – address concerns of construction and establishment of regular debris monitoring of beach; 4. Legislative Action (urging resolution to require chemical testing for transferred sand in the State of Florida); 5. Prepare enhanced regulations for Surfside that reflect lessons learned with regard to chemical testing and public notice and engagement; 6. Renourishment – identify schedule, sand source and other relevant details; 7. Sea Turtles—public education on importance of sea turtles to the ecosystem and the impact on timing/scheduling of beach improvements; 8. Other issues identified by the Committee.

The Committee held its organizational meeting on June 25. An additional six meetings were held culminating in the Committee's final meeting on August 20. [Note: The Committee agreed to meet on September 2 to review/approve the final report].

Members appointed to the Committee were:

- Joe Benton (Surf Club representative)
- Juan Borges (Resident)
- Debbie Cimadevilla (resident, resigned – replaced by resident Marianne Meischeid)
- Lee Gottlieb (Youth Environmental Alliance)
- David Raymond (Resident)
- Scott Stripling (Chair, Miami Chapter Surfrider Foundation)
- Barbara Wolverton (resident, resigned – replaced by resident Jeffrey Platt)

Process

The recommendations contained in this report have been arrived at as a result of the cumulative efforts of the Committee; Town Staff; Citizen input and guidance from professionals who are subject matter experts on the issues assigned to the Committee.

The final report will not attempt to summarize the many hours of professional presentations; Committee discussion/debate and citizen input as the Town Commission has been receiving all documents and updates on the Committee's progress; through briefings and viewing of meetings (either in person or broadcast). It is noteworthy to list the professionals/subject matter experts who assisted the Committee and provided informative, interesting and useful technical information:

A. Chemical Analysis – Sand

- Dr. Christopher Teaf, Director of Toxicology and President of HSWMR; member of the faculty of Florida State University; and Board Certified by the Academy of Toxicological Sciences
- Alex Front, ARS Environmental, Inc.

B. Sand Issues and Permitting

- Dr. Stephen Leatherman, Professor Florida International University; and widely published lecturer and author on beach issues
- Stephen Blair, Chief, Restoration and Enhancement Section, Miami-Dade Department of Regulatory and Economic Resources, Environmental Resource Management (DERM)
- Brian Flynn, Special Projects Coordinator, Miami-Dade Department of Regulatory and Economic Resources, Environmental Resource Management (DERM) (coordinates Miami-Dade beach renourishment projects)
- Gordon Thomson, P.E., D.CE, CB&I Environmental & Infrastructure, Inc.

Attachment 2 contains the minutes of the Committee's meetings.

Significant issues addressed by the Committee that are not necessarily detailed in the recommendation section of the report include:

1. Chemical Analysis

In April, the Town undertook testing of the sand placed on the beach from the Surf Club. Testing included chemical and color/grain size/sediment testing. The testing was conducted by Terrecon.

The testing results revealed arsenic readings of 7.0, 7.8 and 8.9 mg/kg. The Florida Department of Health (FDOH); DERM; 2 private toxicologists and the Miami-Dade Health Department reviewed the test results and found that these readings were reflective of naturally occurring background arsenic levels in the beach environment of Miami-Dade County and are consistent with expected testing results for beach sand.

However, a number of citizens expressed strong concerns that the arsenic readings exceed the State recommended default level of 2.1 mg/kg for residential. As the Committee undertook its tasks, additional discussion among Committee and the public centered on possible health concerns and the fact that the initial analysis did not include testing for certain pesticides which were commonly used at sites that contained 70+ year old developments; lead (leachability –TCLP); etc.

Accordingly, a substantial portion of the Committee's initial effort was devoted to fully vetting this issue. Professional assistance was provided by Dr. Teaf in developing a comprehensive testing protocol which was intended to be utilized for additional testing of the sand. The protocol provided for 60 samples taken from 38 separate locations; QA/QC recommendations; data presentations/analysis; and the testing parameters (Attachment 3). The Committee ultimately decided not to initiate this level of testing pending arriving at its recommendation regarding the sand issue. This comprehensive testing protocol assisted in the preparation of the testing requirements for the Committee's recommendation to relocate the sand into the dunes.

[Note: Chemical testing results of the sand provided to the Committee, including Terrecon, ARS Environmental and Kimley Horn (Surf Club), are on file in Town Hall as a public record and are available on the Town's website listed as "Sand Updates" under Town News on the Town's website at www.townofsurfsidefl.gov].

2. Beach Sand Compatibility

In April, the Town retained the independent testing firm Terrecon to undertake chemical analysis of the sand and testing of the sand for compatibility with FDEP for grain size and Munsell color designation. The Terrecon testing confirmed compliance with FDEP requirements for color and grain size.

The issue of the transferred sand meeting FDEP standards for color/grain size remained a matter of concern for some members of the Committee and the public. The Committee requested Dr. Leatherman (Coastal & Environmental Consultants, Inc.) to undertake an additional test to determine compliance with FDEP guidelines. In a report dated July 28, 2014, Dr. Leatherman reports that his testing determined that the transferred sand passes the color compatibility test and particle size distribution per the State guidelines. Dr. Leatherman noted in his report that the Town could consider adopting more stringent criteria for color for future projects (Attachment 4, July 28, Dr. Leatherman Report).

3. Debris

The Committee spent considerable time discussing, hearing public input and exploring solutions to the debris found on the beach. The Committee reviewed the FDEP Compliance Assistance Offer dated July 2, 2014 regarding the FDEP requirement (Special Permit Condition number 5.1.4) that mandates "that the placed excavated fill material shall not contain construction debris, metal, vegetation, organic soil, rocks, clay, toxic material or other foreign matter".

The final recommendation of the Committee regarding the relocation of the sand to the dunes is contingent upon the FDEP determining compliance with this Special Permit Condition.

4. FDEP Maintenance Permit

The Committee was informed that the Town has submitted an initial application to FDEP for a maintenance permit (similar to Sunny Isles Beach) that would allow regular beach maintenance.

Gordon Thomson will be assisting in determining the best strategy for permitting (Town vs. joining Miami-Dade permit) and providing follow-up information to FDEP.

5. Beach Management

The Committee's efforts in understanding and addressing its assigned tasks regarding beach management were greatly enhanced by the array of professional subject matter experts who participated in the process including:

- Stephen Blair who presented an in-depth information and analysis on the topic of Miami-Dade County beach sands and discussed with the Committee historical and current beach issues; erosion and beach renourishment opportunities; dune systems and the challenges and maintenance issues associated with escarpments.
- Brian Flynn who advised the Committee of Miami-Dade's plans for full renourishment of Surfside's beaches (currently forecasted for 2017) and the on-going challenges associated with locating beach compatible sand for the upcoming full renourishment.
- Dr. Stephen Leatherman (Dr. Beach) who provided the Committee with his in-depth knowledge of beach issues; shared personal best beach management practices based on his experience in other areas of Florida and throughout the United States; and conducted sand compatibility tests through his company.
- Gordon Thomson who has provided professional guidance to the Committee regarding sand solutions including cost estimates and FDEP permitting considerations; beach maintenance issues including debris; and coordination of the Town's professional effort to bring about the recommendation solution.

6. Surf Club

The Committee would like to especially recognize the cooperation of the Surf Club who has been a partner throughout this process for its willingness to be on board to arrive at and support a community based solution that will resolve this sand issue. More importantly, the Committee thanks Committee member Joe Benton who represented the Surf Club. His willingness to participate and cooperation was instrumental in arriving at the Committee's final recommendations.

7. Committee Documents

The attachments to this report include just a portion of the information that led to the recommendations. All Committee documentation is available for public review. The complete files are available for review at Town Hall. Also, under Town News on the Town's homepage (www.townofsurfsidefl.gov) a link entitled "Sand Updates" will provide a greater insight on this subject and the Committee's efforts.

Committee Recommendations

1. Sand

The Committee was tasked with reviewing the options identified by FDEP to address sand concerns [1. no action; 2. till; 3. cover with a layer of new sand; and 4. remove existing sand and replace with new sand] and provide recommendations. With the assistance of Gordon Thomson, P.E., D.CE of CB&I (Town consultant), the following projects were identified as being consistent with the options identified by FDEP:

Option	Description	Cost	Permit Effort	Effectiveness
1	Till the beach	$5,000.00	Low	Low
2	Scraping the Surf Club sand off the beach and placing it in the dunes or street access areas	$156,220.00	Medium	Medium
3	Cover the Surf Club sand with more sand from an upland source	$304,835.00	Low	Medium
4	Scrape, remove and replace the Surf Club sand with upland sand	$797,220.00	Low	High
5	Scrape the Surf Club sand into the ocean	$56,300.00	High	Medium
6	Scrape and remove the Surf Club Sand and place it below mean high water in Bal Harbor or City of Miami Beach	$141,440.00	Medium	High

[Note: FDEP also listed an option of "no action" which requires no permit or expenditure].

At the August 18 meeting, the Committee recommended the following:

a. **Scraping of the Surf Club sand off the beach and placing it in the dunes or street access areas**
b. **Prior to the project being undertaken that the following two (2) conditions be met:**
    - **Ensuring compliance with FDEP permit requirements and resolving Compliance Assistance Offer dated July 2 regarding removal of debris on the beach and;**
    - **Testing of the sand prior to being placed on the dunes pursuant to a modified testing protocol developed and approved by Dr. Teaf (Attachment 5)**
    - **At the September 2 meeting of the Committee, the Committee recommended that 2 control beach sites (one north and one south of Surfside) be selected for sampling and testing. In addition, the Committee requested that the following be added to the sampling/testing plan prepared by Dr. Teaf:**

      Undertake assessment of leaching potential by implementing the Synthetic Precipitation Leaching Procedure (SPLP; USEPA Method 1312) due to the concerns previously discussed by the Committee and residents.

2. Urging Resolution

At the August 18 meeting, the Committee approved the contents of an urging resolution which asks the State to adopt chemical testing standards and requirements for sand transferred/placed on the

beach in Florida. The Committee approved a document prepared by Dr. Teaf that would serve as the basis for such a resolution.

The following is recommended to be included in such an urging resolution:

At present, there is no explicit testing requirement to assess the chemical quality of sand that is to be used in beach renourishment activities in Florida. Existing language in renourishment permits requires the absence of "toxic material", but stops short of identifying explicit procedures or requirements for that demonstration. It would be prudent to establish a minimum requirement for analytical testing at the state level, as tangible support for any conclusions regarding the presence, absence and/or significance of relevant substances.

To some extent, the appropriate suite of chemicals for analysis of a potential sand source will be a function of historical knowledge about the activities which have been conducted at a site where the potential renourishment fill originates. The following analytical categories are suggested for inclusion as a baseline analytical profile, with appropriate supplementary tests to be identified and implemented based upon the site's historical information.

- *"RCRA 8" metals with extraction by USEPA Method 3050 and analysis by USEPA Method 6010 or 200.7 (i.e., arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver). Data to be expressed in mg/kg;*
- *Total Recoverable Petroleum Hydrocarbons (TRPH) by Florida Department of Environmental Protection (FDEP) FL-PRO method. Data to be expressed in mg/kg;*
- *Chlorinated hydrocarbon pesticides by USEPA Method 8081, specifically aldrin, chlordane, dieldrin, endrin, heptachlor, and the DDT/DDD/DDE group. Data to be expressed in mg/kg; and,*
- *Polychlorinated biphenyls (PCBs) by USEPA Method 8082 (i.e., Aroclors 1016, 1221, 1232, 1242, 1248, 1254, and 1260). Data to be expressed in mg/kg.*

As an alternative approach, USEPA Method 8270 may be used to capture the analysis listed in both the third and fourth categories, though that method is capable of identifying a much larger universe of substances that the individual methods cited.

If there is site-specific knowledge which suggests that assessment of the leaching potential for a particular sand source is warranted, the appropriate test method will be the Synthetic Precipitation Leaching Procedure (SPLP; USEPA Method 1312).

The number of samples of each type to be collected for analysis should be determined based upon the quantity of material to be applied in the beach environment (e.g., # of samples per 10,000 cubic yards). Specific protocols and sample numbers should be developed on a site-specific basis, based upon discussions between Florida DEP and the entity that is proposing the beach renourishment. An appropriate number of background samples should be required as well, to establish background conditions on the beach prior to the addition of local renourishment sand.

While not taking formal action or developing a specific recommendation, the Committee discussed submitting a request to FDEP to review their rules to determine if more stringent regulations should be established relating to sand transfers from properties where there was pre-existing development

that requires demolition as there is a significantly higher level of risk/potential problems associated with a sand transfer from this type of situation vs. a sand transfer from an undeveloped site.

3. Establish Standing Beach Committee

The Committee **strongly** recommends that the Town Commission develop a Charter for a standing beach committee and establish such a committee. The Committee "brainstormed" the role/function of such a standing committee and suggests that the following tasks could be assigned:

- Land Development Regulations Review which could include more stringent local standards regarding grain size; color; sand bleaching, if necessary, prior to placement; inspection of sifting operations; testing requirements (Phase 1 and Phase 2); capping amount of excavation east of CCCL; etc.;
- Best Management Practices for overall beach issues including dune vegetation; turtle lighting standards; volunteer outreach/education programs; etc.;
- Tighter standards to address debris on beach by requiring local inspection of sifting operations and more aggressive code enforcement to address dumping of debris on the beach

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The Committee wishes to thank the Commission for providing this opportunity to serve and to address this important community issue.

Jeffrey Platt, Chair
Lee Gottlieb, Vice Chair
Joe Benton
Juan Borges
Marianne Meischeid
David Raymond
Scott Stripling

Attachment 1: Sand Project Community Monitoring Committee - Charter
Attachment 2: Committee Minutes
Attachment 3: Testing Protocol – Dr. Christopher Teaf
Attachment 4: July 28, 2014, Dr. Stephen Leatherman Report
Attachment 5: Testing Protocol Prior to Scraping Beach and Placing in Dunes – Dr. Christopher Teaf